

These are electronic appendices to the paper by Leung *et al.* 2002 An ounce of prevention or a pound of cure: bioeconomic risk analysis of invasive species. *Proc. R. Soc. Lond. B* **269**, pp. 2407—2413. (DOI 10.1098/rspb.2002.2179.)

Electronic appendices are refereed with the text. However, no attempt has been made to impose a uniform editorial style on the electronic appendices.

Electronic Appendix A. **Zebra mussel biological parameters estimates.** The mean and standard deviation for recruitment ($\#/m^2/month$) and percent survival are presented (log-transformed ($\ln(X+1)$)). Recruitment rate was measured once or twice a month (but assumed zero between January and May) by counting numbers of settled postveligers on artificial substrates placed in the fore bay area of a large nuclear power plant in south western Michigan, USA between 1995-1998. Recruitment and survival values were back transformed to obtain the original distribution. For the relation between size (maximum length) (mm) and volume (m^3), we used the allometric scaling equation $Y = \beta X^H$ ($r^2 = 0.981$). We measured length and volume from zebra mussels collected from Christiana Lake, northern Indiana (Lat 41.8028, Long 85.9859). We separated zebra mussels into 5mm size classes for regression.

Variable	Mean	Standard Deviation
Survival probability		
YOY	2.31	1.08
Adult	0.33	1.93
Recruitment		
June	4.65	3.88
July	8.19	4.19
August	10.95	2.39
September	11.00	2.31
October	10.29	1.62
November	7.48	2.32
December	6.10	1.62
Shell length versus volume		
β	$5.59 * 10^{-10}$	N/A
H	2.5017	N/A

Electronic Appendix B. **Economic information.** We obtained annual estimates of production (Q), labour (L), and short-term capital (K) from six power plants from 1994-2000 [Records & Information Management System

(<http://rimswb2.ferc.fed.us/form1viewer/>), Federal Energy Regulatory Commission (<http://www.ferc.fed.us/electric/f423/F423annual.htm>)]. All monetary variables were

deflated with base year 1982 using the Consumer Price Index (U.S. Department of Labour, Bureau of Statistics, <ftp://ftp.bls.gov/pubs/specialrequests/cpi/cpiat.txt>).

Productivity improvements occurred throughout the industry in the 1990s. Labour inputs were calculated as $L = (\text{output per worker}/100) * \text{number employees}$ (U.S. Department of Labour, Office of Productivity and Technology, <http://www.bls.gov/lpc/iprdata1.htm>).

We used electric utility industry specific data from Industry Productivity Database over the years 1994-1999, with a base year value of 100 in 1987. We assumed short-term capital would be highly correlated with all short-term inputs.

Variable	Definition	Source	Mean	Standard Deviation
Q	Total output (Megawatt Hours)	Sales to ultimate customers	2416616	1370172
L	Labour inputs (Total Employees)	Number of employees, corrected for productivity improvements: calculated as the product of a measure of output per worker and number of employees	668	447
K	Capital inputs (Quantity of Fuel)	The summation of utility fuel BTU's: calculated as the product of the quantity of fuel (coal (1000-tons), oil (1000-barrels), and natural gas (1000-MMBTU)) and the fuel-specific BTU content for each firm.	13411850	6382083
T _Q	Total revenues (\$)	Total sales of electricity	185064630	124136477
T _L	Total labour costs (\$)	Total salaries and wages	29645828	22508046
T _K	Total capital costs (\$)	Total electric operations and maintenance expenses minus total salaries and wages	76460412	47268682

Electronic Appendix C. **Economic parameter estimates.** Values in parentheses are standard errors. Parameters a , b , and α were determined using SURE (Zellner 1962). First order autocorrelations were corrected. To estimate the price per unit of production (p), the cost of labour (C_L), and the cost of capital (C_K), we regressed Q , L , and K against total revenues (total sales of electricity, T_Q), total labour costs (total salaries and wages, T_L), and total capital costs (total expenses minus salaries and wages, T_K). We assumed revenues were generated only from sales, and that salaries and wages were paid only to employees. In our regressions, we forced the intercepts through zero, except for capital. Capital included both short and long-term inputs. We treated K as the short-term inputs that could vary immediately depending upon the state of the environment (i.e., the level of damage). For the regression between K and T_K , we allowed a non-zero intercept. Here the slope can be viewed as the cost of short-term inputs (i.e., the portion of T_K that varied with K), while the intercept can be viewed as other (long-term) inputs that were not dependent on K . We used the slope as our estimates of price, cost of labour, and cost of short-term inputs. r^2 indicates the amount of variation explained by the model.

Parameter	Estimate (SE)	Adjusted r^2
a	0.1397 (.0062)	0.92
b	0.3575 (.0243)	0.80
α	2694.278 (.0243)	0.72
p	49.18 (1.08)	0.9358
C_L	29065.8 (564.446)	0.963
C_K	3.58(.2055)	0.5276

Zellner, A. 1962. An efficient method of estimating seemingly unrelated regressions and tests of aggregation bias. *J. Am. Stat. Association* **57**, 500-509.